What is claimed is:

1. An image sensor, comprising:

a substrate in which an array of photoelectric elements is formed; and

an array of optical path conversion elements for converting optical paths of incident light formed at a light incident side of the substrate so that the optical path converted light may be incident on the substrate, each optical path conversion element being formed to match with each photoelectric element,

wherein an incident surface of each optical path conversion element has a tangent line gradient value to convert the optical path of light incident slantingly on a peripheral area of the image sensor at a larger inclination angle as the peripheral area is away from the center of the image sensor to be identical with the optical path of light incident vertically on a central area of the image sensor to counterbalance the inclination angle of light incident on the peripheral area of the image sensor, the tangent line gradient values of corresponding parts of the incident surfaces of the optical path conversion elements at an identical distance from the respective matching photoelectric elements being different from one another according to distances between the corresponding parts and the center of the image sensor.

2. The image sensor of claim 1, wherein the optical path conversion elements are selected from the group consisting of micro prisms and micro reflecting mirrors having different incident surface gradient values according to the distances from the center of the image sensor.

3. The image sensor of claim 2, which comprises both the micro prism type optical path conversion elements and the micro reflecting mirror type optical path conversion elements.

4. The image sensor of claim 2, wherein, when it is presumed that a refraction index of a layer contacting an incident surface of the micro prism is 'n_1' the inclination angle between light incident on the incident surface of the micro prism and the optical axis is 'ϕ_1', and a refraction index of the micro prism is 'n_2', a gradient α of the incident surface of the micro prism is represented by following formula:

$$\alpha = \tan^{-1}\left(\frac{n_1 \sin\phi_1}{n_1 \cos\phi_1 - n_2}\right) .$$

5. The image sensor of claim 2, wherein, when it is presumed that the inclination angle between light incident on the incident surface of the micro reflecting mirror and the optical axis is 'ϕ_3', a gradient β of the incident surface of the micro reflecting mirror is represented by following formula:

$$\beta = 90° + \frac{\phi_3}{2} .$$

6. The image sensor of claim 2, wherein the optical path conversion elements are the micro prisms, and the single optical path conversion element comprises combinations of the plurality of micro prisms.

7. The image sensor of claim 6, wherein combinations of two micro prisms, a first micro prism and a second micro prism are used as the optical path conversion element,

an incident surface of the first micro prism has a gradient to a right angle surface to the optical axis,

the second micro prism is formed on the first micro prism, and an incident surface of the second micro prism is at right angles to the optical axis.

8. The image sensor of claim 1, wherein the optical path conversion elements convert the optical path of light to be parallel to the optical axis.

9. The image sensor of one of claims 1 to 8, which comprises micro lenses, wherein the micro lenses are positioned on the optical path of light converted by the optical path conversion elements, to condense light to the photoelectric elements.

10. The image sensor comprising:

a substrate in which an array of photoelectric elements is formed; and

an array of optical path conversion elements for converting optical paths of incident light formed at a light incident side of the substrate so that the optical path converted light may be incident on the substrate, each optical path conversion element being formed to match with each photoelectric element,

wherein the optical path conversion elements are selected from the group consisting of aspheric micro lenses and aspheric micro reflecting mirrors, the aspheric micro lenses and aspheric micro reflecting mirror having different tangent line gradient values on the individual parts of an incident surface of the same optical path conversion element to condense incident light to the photoelectric element, and

the incident surface of each optical path conversion element has a tangent line gradient value to convert the optical path of light incident slantingly on a peripheral area of the image sensor at a larger inclination angle as the peripheral area is away from the center of the image sensor to be identical with the optical path of light incident vertically on a central area of the image sensor to counterbalance the inclination angle of light incident on the peripheral area of the image sensor, tangent line gradient values of corresponding parts of the incident surfaces of the optical path conversion elements at an identical distance from the respective matching photoelectric elements being different from one another according to distances between the corresponding parts and the center of the image sensor.

11. The image sensor of claim 10, which comprises both the aspheric micro lens type optical path conversion elements and the aspheric micro reflecting mirror type optical path conversion elements.

12. The image sensor of claim 10, wherein, when it is presumed that a refraction index of a layer contacting the incident surface of the aspheric micro lens is 'n_1' the inclination angle between light incident on the incident surface of the aspheric micro lens and the optical axis is 'ϕ_1', a refraction index of the aspheric micro lens is 'n_2', and an angle of refracted light to the optical axis for light incident to one point on the incident surface of the aspheric micro lens to be refracted by the aspheric micro lens and condensed to the photoelectric element is 'ϕ_2', a tangent line gradient α at the point on the incident surface of the aspheric micro lens is represented by following formula:

$$\alpha = \tan^{-1}\left(\frac{n_1 \sin\phi_1 - n_2 \sin\phi_2}{n_1 \cos\phi_1 - n_2 \cos\phi_2}\right).$$

13. The image sensor of claim 10, wherein, when it is presumed that the inclination angle between light incident on the incident surface of the aspheric micro reflecting mirror and the optical axis is 'ϕ_3', and an angle of reflected light to the optical axis

for light incident to one point on the incident surface of the aspheric micro reflecting mirror to be reflected by the aspheric micro reflecting mirror and condensed to the photoelectric element is 'ϕ_4', a tangent line gradient β at the point on the incident surface of the aspheric micro reflecting mirror is represented by following formula:

$$\beta = 90° + \frac{\phi_3 + \phi_4}{2} .$$

14. The image sensor of one of claims 1 to 8 and 10 to 13, wherein the centers of the optical path conversion elements are offset from the centers of the matching photoelectric elements according to the distances from the center of the image sensor.

15. The image sensor of one of claims 10 to 13, wherein, when the single image sensor is divided into a plurality of regions according to the distances from its center, the optical path conversion elements in the same region have the identical tangent line gradient value on the corresponding parts of the incident surfaces, but the optical path conversion elements in the different regions have different tangent line gradient values on the corresponding parts of the incident surfaces according to the distances from the center of the image sensor.

16. A method for fabricating the image sensor as recited in one of claims 1 to 8 and 10 to 13, which fabricates the optical path conversion elements according to a photolithography process using a gray scale mask.

17. The method of claim 16, wherein the optical path conversion elements are fabricated by forming patterns of the optical path conversion elements on an etched layer for reactive ion etching according to the photolithography process using the gray scale mask, and reactive ion etching the etched layer on which the patterns of the optical path conversion elements have been formed to transfer the patterns to the etched layer.

18. The method of claim 16, wherein the optical path conversion elements are fabricated by

forming concave patterns of the optical path conversion elements on an ultraviolet transparent etched layer for reactive ion etching according to the photolithography process using the gray scale mask;

fabricating a mold by reactive ion etching the etched layer on which the concave patterns of the optical path conversion elements have been formed to transfer the concave patterns to the etched layer; and

applying a photopolymer on the substrate, and then pressurizing the photopolymer with the mold and irradiating ultraviolet rays to the photopolymer for curing.